



## Classifying the European Football Leagues by Using Balance-Performance Matrix

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### ABSTRACT

European football has transformed over the last two decades both financially and athletically. Although the aggregate revenue generated by the European football increases, some leagues grew richer than the others. The inequality in the distribution of revenue caused the talents to accumulate in the Big 5 leagues and left the others with no chance to compete. Especially after the introduction of Financial Fair Play, teams from other leagues became in desperate need of transfer income which accelerated the accumulation of talent. This paper proposes a matrix, the Balance-Performance Matrix, for classifying leagues with respect to their transfer balance and sportive performance. As the results of the matrix illustrate, some leagues indeed became suppliers for the Big 5 and they have lost their competitive edge whereas some are still competing despite losing their best talents.

### Keywords

Financial Fair Play,  
Transfer Market,  
European Football,  
Big 5

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## INTRODUCTION

The Big 5 leagues of Europe, England, France, Germany, Italy, and Spain have dominated Europe both in economic and sportive performance in the last two decades. The top 5 leagues generated about 15.6 billion euros revenue in the 2017/2018 season which is 55% of the total revenue generated by the European football (Deloitte, 2019). There are 55 registered leagues in UEFA (UEFA, 2019) and the Big 5 leagues generated more than half of the total revenue (Deloitte, 2019).

From 2008/2009 to 2017/2018, the total revenue generated by European football increased about 44% and the share of Big 5 increased from 50.3% to 55% in 10 years (Deloitte, 2010; 2019). As the revenues increased, the Big 5 grew richer than the other leagues and were able to spend more on transfers. The talent accumulated from the other leagues to the Big 5 causing the others to lose competitive power. Every year, same teams compete for the titles and trophies in inter-European championships. In the last 20 years, only one team, which is not from the Big 5, has managed to win the Champions League (Porto FC in 2004). In the 15 years prior to the last 20, teams from nine different leagues have managed to win the Champions League. In the last two decades, the competitive balance in European football has been distorted severely in favor of the teams that are generating higher revenues (Özaydın & Donduran, 2019) since these are also the teams that are accumulating talent.

The increasing gap between the Big 5 and the others, in sportive performance, has forced teams from the other leagues to overspend both in terms of transfer fees and wages. Other leagues which have relatively higher income such as Turkey, Portugal, and Russia, try to attract players by overpaying which causes them to compile substantial debts. In the 2018/2019 season, the highest wage to revenue ratio in European football belonged to Turkey with 79% followed by Portugal (75%) and Russia (70%) (Deloitte, 2020). In 2009, UEFA introduced the concept of Financial Fair Play (FFP) to discipline the clubs' finances. The most constraining aspect of FFP has been the break-even rule which sets up limits to clubs' expenditures with their incomes. Starting with the 2012/2013 season, UEFA started investigating clubs' finances in alignment with the break-even rule. If clubs fail to meet the break-even requirements they face punishments depending on the severity of the offense (UEFA, 2015).

As of December 2020, 51 clubs have been sanctioned by UEFA which are all from the leagues outside the Big 5, and the previously mentioned three leagues, Turkey, Portugal, and Russia, are the most sanctioned three leagues sanctioned by UEFA due to failing to meet the break-even requirement (UEFA, 2020). Clubs from other leagues are struggling with financial

regulations on one hand and on the other, they are trying to keep their competitive power. Although UEFA claims that FFP will be beneficial for the inter-European competitive balance in the long-run, it doesn't seem very likely at the moment (Vöpel, 2011). Heretofore, the empirical evidence suggests that FFP affected the domestic competitive balance. The competitive balance has been distorted in Germany, France, and Spain after FFP came into practice (Plumley et. al, 2019).

In European football, accumulation of debt is highly linked to success since hiring talent is costly and often clubs outspend for being able to acquire players (Drut, 2012). Since clubs are no more allowed to overspend after the implementation of FFP rules it is going to affect their competitive power. Especially for the leagues which have lower revenues, transfer income will be key in balancing their accounts therefore they will be exporting all their talent to the richer leagues which will diminish their competitive power even further. On the other hand, over the last decade, rich clubs' willingness to acquire players increased to preempt rival clubs from acquiring talent (Norbäck, et. al, 2016). Especially the clubs of the Big 5 leagues are racing with each other to transfer players from the lesser clubs in European football. As a result, the European football has polarized into two sides, the supply, and the demand side.

To illustrate the polarization in European football and investigate the impact of FFP on European leagues in the last decade, a 2x2 matrix is proposed to classify them by their transfer balance and UEFA competitions' performance. The expected impact of the FFP regulations is that some leagues will lose their competitive power in order to improve their transfer balances. The improvement in transfer balances will be due to the decrease in their transfer expenditures as well as the increase in their transfer income due to the previously mentioned reasons.

Matrices are often used in economics and business for multiple purposes such as decision making, constructing organizational structure, and illustrating frameworks (Lowy & Hood, 2004). In the sports studies literature, matrices are commonly used for constructing ranking and classification systems, predicting match outcomes, and evaluating teams' and tactics' performances (West & Lamsal, 2008; Dahl, 2012; Moura et.al, 2013).

Two five-year periods are investigated and compared to observe the changes in leagues' sportive and financial performances. The first five-year period is between 2008/2009 and 2012/2013 which are the five seasons before the break-even rule came into practice. The second five-year period is between the 2013/2014 and 2017/2018 seasons which are five seasons after the break-even rule. Data regarding the transfer balances are collected from the well-known German website Transfermarkt.com which is often used in academic studies and has no credibility issues.

The proposed matrix in this study enables to differentiate between countries as well as tracking the change in their transfer balance and performance in UEFA competitions.

## METHODS

As mentioned earlier, talent has been piling up in the major leagues of Europe in the last two decades. Major leagues are harvesting players from the smaller leagues and causing them to lose their competitive edge as the results from the inter-European competitions suggest.

A matrix is proposed which can be utilized to classify the European leagues by their transfer balances versus the UEFA competitions performances so that the change in the last decade can be investigated.

Each league is plotted into the matrix subject to its transfer balance and its performance in UEFA competitions for a five-year period. The area consisting of quadrants 1 and 2 is the supply side due to the positive transfer balance and quadrants 3 and 4 form the demand side. Transfer balance and performance indices are computed as follows:

$$B_{it} = Exp_{it} - Inc_{it} \quad (1)$$

$$TB_i = \sum_{t=1}^5 B_{it} \quad (2)$$

Where  $Exp_{it}$  and  $Inc_{it}$  are transfer expenditure and income for country (i) at time (t) and  $TB_i$  is the transfer balance for a country (i) for a period of five seasons.

Performance Index is computed using UEFA country coefficients. The country coefficient is the total points collected in UEFA competitions by a league divided by the number of teams from that league competing in UEFA competitions.

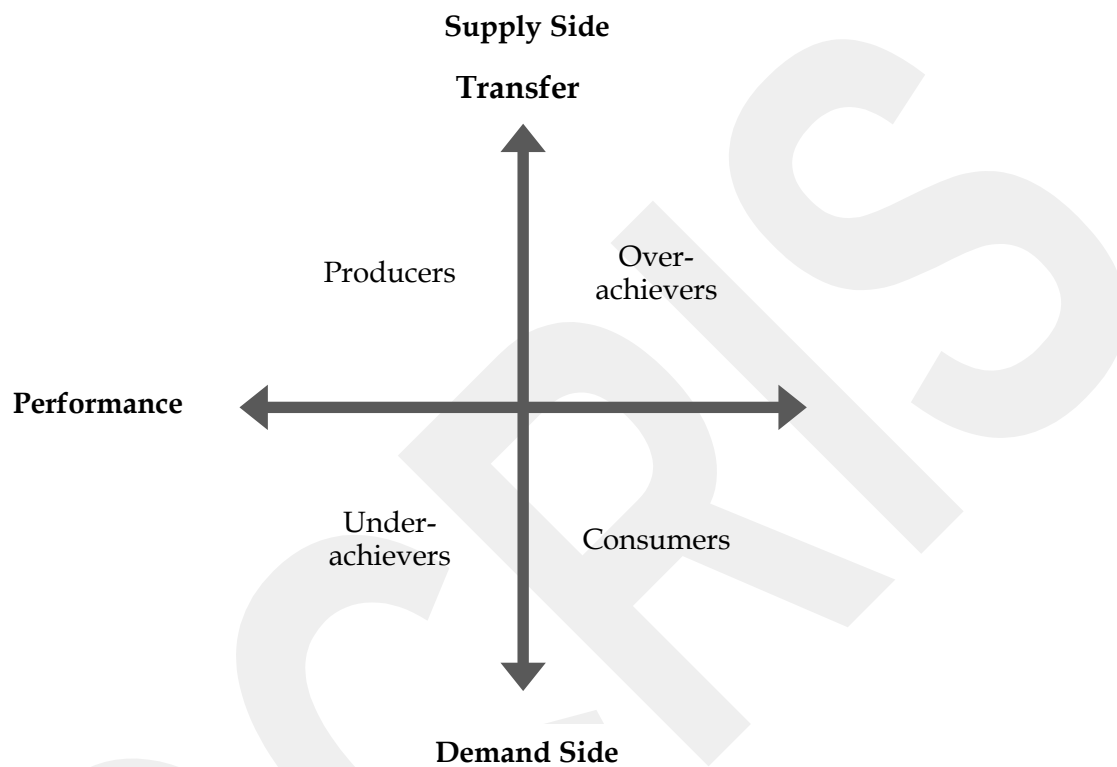
$$\Delta CC_{it} = CC_{it} - CC_{it-1} \quad (3)$$

$$PI_i = \sum_{t=1}^5 CC_{it} \quad (4)$$

Where  $CC_{it}$  is the UEFA country coefficient for a country (i) at time (t) and  $PI_i$  is the performance index for a country (i) for a period of five seasons.

The proposed name for the leagues on Quadrant 2 is "Producers", these are the leagues that supply talent to the other leagues. They supply talent for the Big 5 or the larger leagues outside the Big 5 and because they sell all the best talent their competitive edge is decreasing. The proposed name for the leagues on Quadrant 1 is "Over-achievers", these leagues also supply players to larger leagues but they are still able to keep their competitive edge. Quadrants 1 and 2 constitute the supply side. The proposed name for the leagues on Quadrant

3 is “Under-achievers”, these leagues have funds and are able to spend but fail to achieve success. Finally, the proposed name for the leagues on Quadrant 4 is “Consumers”, these leagues have funds and their spending is increasing their competitive power. Quadrants 3 and 4 constitute the demand side. Figure 1 presents the proposed Balance – Performance Matrix. A total of 25 leagues, the Big 5 and 20 others, are plotted on the Balance – Performance Matrix and the results are presented in the next section.



**Figure 1** Balance – Performance Matrix

## RESULTS

The plots of leagues in the Balance – Performance Matrix are presented in Figures 2 and 3. Figure 2 illustrates the smaller leagues for periods 1 and 2 and Figure 3 for the Big 5. Transfer balance is on the Y-axis and performance is on the X-axis.

It is observed from Figure 2 that, after the implication of break-even regulation all leagues with negative transfer balances have improved their transfer balances. In period 2, almost all leagues are on the supply side and, there is evidence that some leagues performed athletically worse in period 2 when compared to period 1. As can be seen from the figure, most of the leagues outside the Big 5 are on the supply side with a few exceptions. Turkey, Greece, Russia, and Ukraine are below the X-axis therefore they are on the demand side in the first period. After FFP came into practice, only Turkey and Russia are left on the demand side.

These two leagues are the most revenue-generating two leagues after the Big 5 leagues (Deloitte, 2019) therefore they have more disposable income for transfers.

Figure 3 illustrates the position of the Big 5 in terms of transfer balance and UEFA competitions performance for the first and second periods. Even though Italy and Spain have improved their balances, all of the Big 5 have negative transfer balances and they are all on the demand side as expected. English Premier League has the highest negative transfer balance in both periods thanks to their high revenues. In the 17/18 season, English Premier League generated about 5440m euros revenue which is about 70% more than the second most revenue-generating league, German Bundesliga (Deloitte, 2019).

The growing revenues, in the last decade, in European football especially in the Big 5 have influenced the transfer market. According to the Transfermarkt data, the total transfer expenditure for the twenty-five leagues in the data set (Big 5 and the others) increased from 13,859m Euros to 21,768m Euros from 2008/2009 – 2012/2013 period to 2013/2014 – 2017/2018 period which is an increase of more than 50%.

Figure 4 illustrates the transfer expenditures for each season. The grey line represents the total expenditure for the 25 leagues, the maroon line for the Big 5, and the navy line for the other 20 leagues. The expenditure for the Big 5 increased continuously after 2012/2013 whereas there is a decrease in the others starting in 2013/2014 and continuing in 2014/2015.

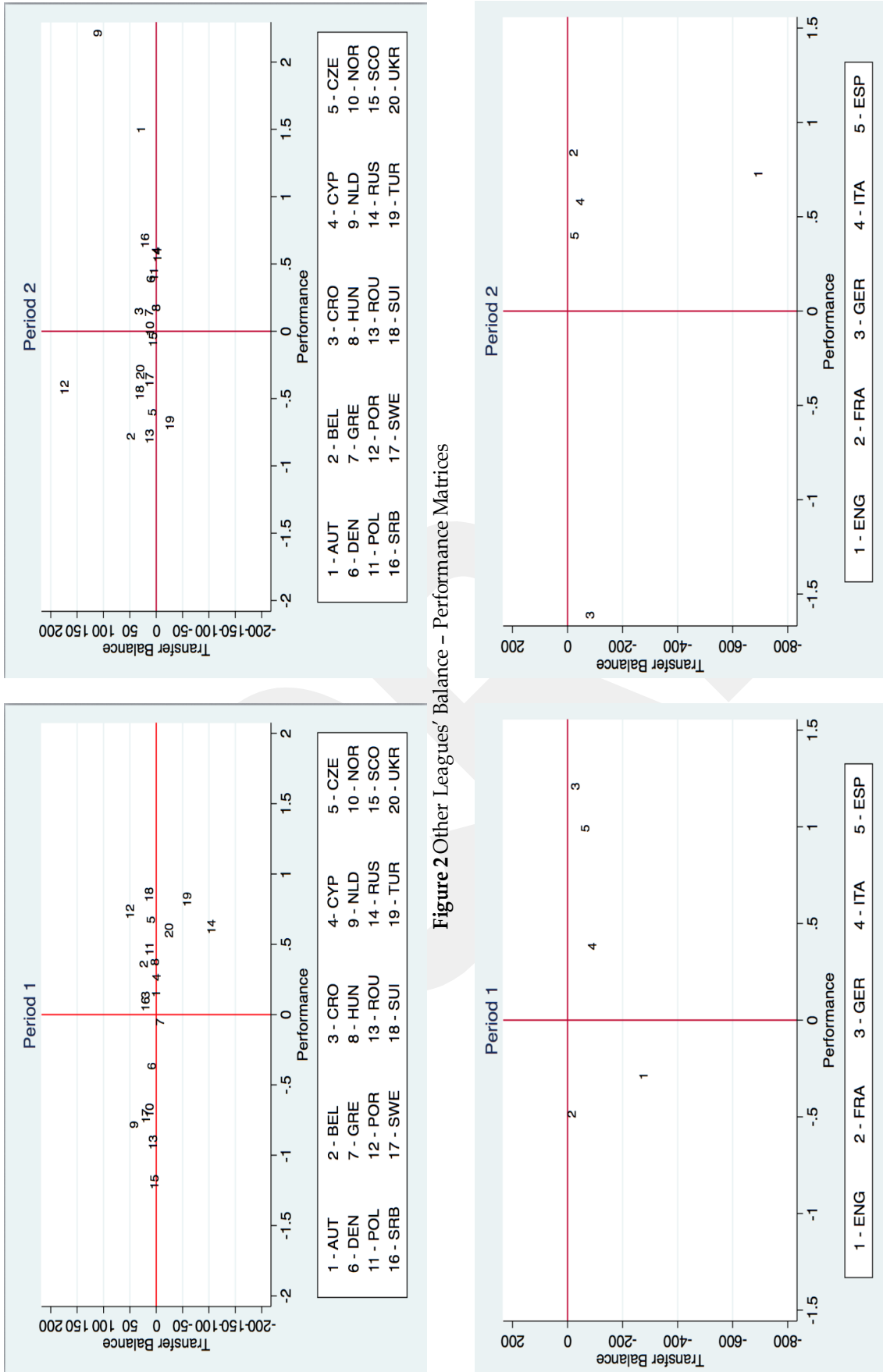


Figure 3 Big 5's Balance – Performance Matrices

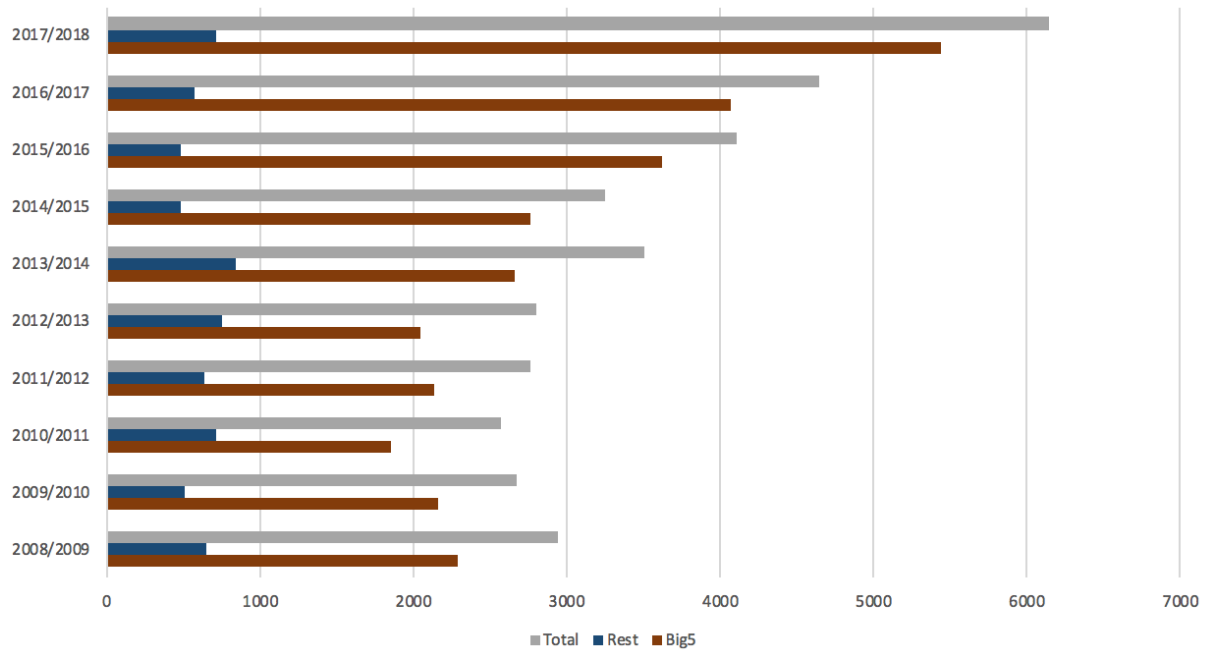


Figure 4 Transfer Expenditures per Season

Figure 5 presents the share of Big 5 and the others in total expenditure for each season. As the figure illustrates, there is an upward trend in the share of Big 5 therefore a downward trend in the share of others. European football's transfer market is being dominated by the teams of the Big 5 leagues due to their high revenues. In the 17/18 season, the Big 5 leagues generated 55% of the total revenue generated by European football (Deloitte, 2019).

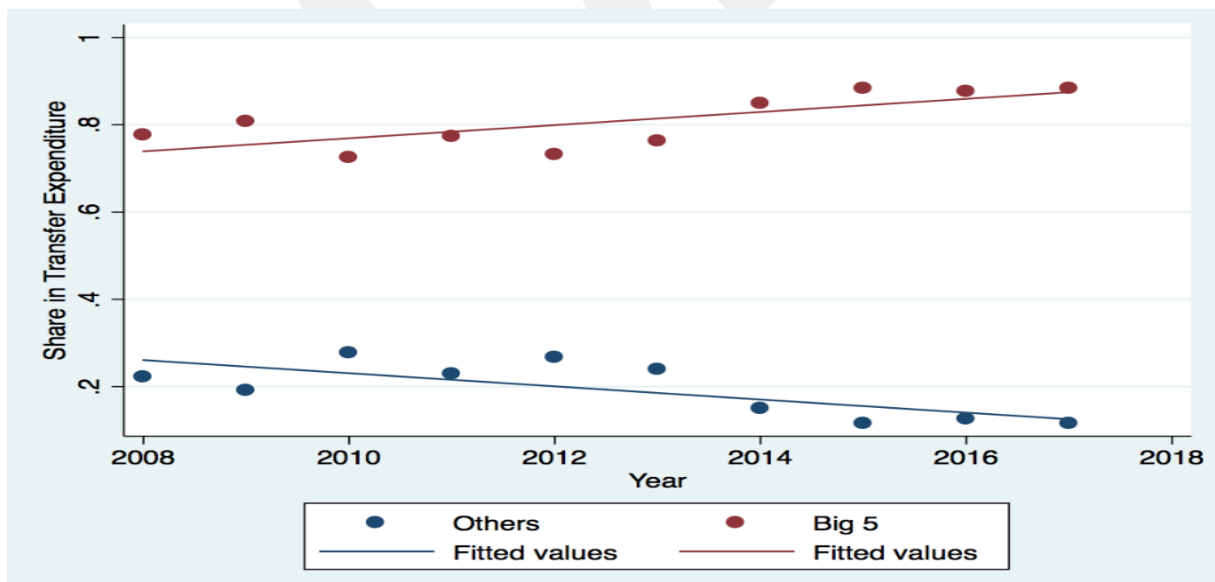


Figure 5 Expenditure Shares

## DISCUSSION

Growing transfer expenditure also means growing number of transfers, especially in the Big 5. The report published by the Centre International d'Etude du Sport (CIES) (2017), presents the percentage of club-trained players in Europe between 2008/2009 and 2016/2017 seasons. As the report suggests, transferred players are invading European football. The percentage of club-trained players decreased from 23.2% to 18.5% from 2009 to 2017.

The same report also contains statistics regarding the share of club-trained players in European leagues. The highest percentage of club-trained players are in Slovakia with 33.4% and the lowest in Turkey with 6.8% furthermore none of the Big 5 leagues are in the top 10 and Italian, English and German leagues are all at the bottom. More than 85% of all the players playing in these three leagues have been trained outside their clubs indicating that teams from these leagues rely heavily on transfers (CIES, 2017)

The Balance - Performance Matrix introduced here, enables the classification of leagues as well as tracking their performances concerning their transfer balance over the two periods. In the first period, there are four leagues with negative transfer balance which are Russia (103.7m Euros), Turkey (57.7m Euros), Ukraine (23.2m Euros), and Greece (6m Euros) as can be seen from Figure 2. The two leagues with the highest deficits are also the two leagues with the highest number of teams that had issues with UEFA regarding financial fair play. Six Turkish and four Russian teams failed to meet the FFP requirements and were sanctioned (UEFA 2019).

In the first period, out of the twenty leagues, thirteen were able to score positive on performance index whereas in the second period eleven of them were able to do so. In financial performance, the improvement in transfer balances cannot be disregarded. Ukrainian and Greek teams have managed to provide positive transfer balances, Russian teams have managed to improve their balance from -103.7m to -0.97m and Turkish teams from -57.7m to -24.5m. Turkish league has the worst transfer balance in the second period which is no surprise when the number of teams with issues with FFP is taken into consideration. The improvement in financial status came with a cost, Ukrainian and Turkish, Turkish teams have performed significantly worse in the second period in UEFA competitions than in the first. Russian teams have also performed worse in the second period however their performance did not deteriorate as much as Ukrainian and Turkish teams. The leagues which have performed better in both indicators in period 2 are Austria, Cyprus, Denmark, Greece, Netherlands, Romania, and Scotland whereas; Czechia, Croatia, Hungary, and Poland have performed worse in both indicators in the second period.

Out of the twenty leagues, ten of them did not switch places on the matrix from period 1 to period 2. The Russian league is a consumer in both periods meaning that Russian teams are spending money and get success in return. Austria, Croatia, Cyprus, Hungary, Poland, and Serbia are all over-achievers which manage to perform well both on and off the field. Romania, Scotland, and Sweden are suppliers which means that even though they provide positive transfer balance they lose their competitive edge and perform worse in UEFA competitions in the last ten years. The rest of the leagues have switched places over the two periods.

In the case of Big 5, all of the leagues are on the demand side as expected. From period 1 to period 2, transfer balance has improved for Italy and Spain and deteriorated for England, Germany, and France. The transfer deficit for the Premier League has increased more than 400m Euro after the break-even rule came into practice.

The revenue generated by the Big 5 has increased radically over the last decade, it increased from 7944m Euros in 2008/2009 to 14662m Euros in 2016/2017 (Deloitte, 2010; 2018). Thanks to the increasing revenues, Big 5 teams are able to spend more on transfer which causes the deterioration of their transfer balances. Unlike smaller league teams, Big 5 teams can afford to spend money on transfers even with no transfer income, thanks to their broadcasting agreements, sponsorships, etc. Premier League has managed to increase its total revenue by 120% from 2008/2009 to 2016/2017 with a total of 5297m Euros, whereas the rest of the Big 5 are all below 3000m Euros. Since English teams have much higher revenues when compared to the teams from the other leagues, they are able to spend more on transfers.

As Figure 4 illustrates, the aggregate transfer expenditure for the 25 leagues in the data set is increasing. Revenue generated by European football leagues has grown dramatically over the last decade and as revenue grew so did the transfer expenditure. Figure 4 also presents the influence of break-even on the other leagues. Although the Big 5's transfer expenditure did not decrease after break-even, the total expenditure of the other 20 leagues has decreased dramatically. From 2013/2014 to 2014/2015, the aggregate transfer expenditure decreased from 836 million euros to 488 million euros which is a decrease of 41.5%. From 2014/2015 to 2015/2016 there is a decrease of 11 million euros and after 2015/2016, other leagues started spending on transfers again.

The average share of Big 5 in transfer expenditure in the first period is 76.3% whereas in the second period it is 85.1%. Every year clubs from the Big 5 are spending more and more hence accumulating more and more talent. As the share of spending increases, so does the number of transferred players. Figure 6 suggests that the share of club-trained players is decreasing all over Europe however the Big 5 are leading the way. About 90% of players

playing in Italy and England are not club-trained players. The best performing league, in terms of club-trained players, is the Spanish league with 22.8%.

Among the other leagues, four leagues are on the demand side of the Balance-Performance Matrix in the investigated period which are Russia, Turkey, Greece, and Ukraine. Out of these four leagues, Russia, Turkey, and Greece are at the bottom in the club-trained players' rankings. Teams from these leagues transfer players rather than growing them furthermore Russia and Turkey are the two leagues that have been punished the most by UEFA for failing to meet FFP requirements.

## CONCLUSIONS

European football clubs are going through a financial transition however it is too soon to decide whether it is good or bad. Although FFP is claimed to be beneficial for both the clubs and the competitive balance in European football. So far, the only visible impact of FFP has been the increase it has caused in the accumulation of talent in Big 5 leagues. Teams from other leagues became dependent on transfer incomes more than ever and therefore they lose all their best talent to Big 5 teams. The increasing volume of exports from other leagues to Big 5 is causing a domino effect which results in an increase in the number of players transferred. All leagues have started using more transferred players over the last decade.

There are some other resourceful leagues in Europe that can spare funds for transfers such as Turkey, Russia, Ukraine, and the Netherlands however the majority of the leagues are just producing players for the Big 5. One probable spill-over effect is the increasing national team performance of smaller leagues. Despite not having enough resources to achieve success at the club level, leagues like Croatia, Belgium, and Switzerland over-achieve at the national level thanks to their players playing in the Big 5 leagues.

The gap between the Big 5 and the others is widening every day both in sportive and financial performance. Competitive balance is an important issue that might have serious consequences on attendance and sponsorship revenues therefore it has to be handled.

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## Authors' contributions

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

## Declaration of conflict interest

The author declares there is no conflict of interest.

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